Contents

Volume 26 Number 1

1 Editorial

Research Section

W. Lijinsky, R. M. Kovatch, L. K. Keefer, J. E. Saavedra, T. J. Hansen, A. J. Miller and W. Fiddler — 3 Carcinogenesis in rats by cyclic *N*-nitrosamines containing sulphur

M. H. Siess, M. F. Vernevaut, A. Grandgirard and J. L. Sébédio — 9 Induction of hepatic drug-metabolizing enzymes by cyclic fatty acid monomers in the rat

W. G. Ikins, J. I. Gray, A. K. Mandagere, A. M. Booren, A. M. Pearson, M. A. Stachiw and D. J. Buckley — 15 Contribution of wood smoke to *in vivo* formation of *N*-nitrosothiazolidine-4-carboxylic acid: initial studies

G. J. A. Speijers, M. A. M. Franken and F. X. R. van Leeuwen — 23 Subacute toxicity study of patulin in the rat: effects on the kidney and the gastro-intestinal tract

W. C. A. Gelderblom, P. G. Thiel and K. J. van der Merwe — 31 The role of rat liver microsomal enzymes in the metabolism of the fungal metabolite fusarin C

M. Gumbleton and P. J. Nicholls — 37 Dose-response and time-response biochemical and histological study of potassium dichromate-induced nephrotoxicity in the rat

H. Foth, R. Kahl and G. F. Kahl — 45 Pharmacokinetics of low doses of benzo[*a*]pyrene in the rat

J. G. Black and V. B. Kamat — 53 Percutaneous absorption of Octopirox®

Review Section

R. McDanell, A. E. M. McLean, A. B. Hanley, R. K. Heaney and G. R. Fenwick — 59 Chemical and biological properties of indole glucosinolates (gluco-brassicins): a review

REVIEWS OF RECENT PUBLICATIONS — 71

Information Section

73 Tartrazine—the story so far

76 The link between aluminium and Alzheimer's—not the whole story

77 Skin and eye irritancy testing

Letters to the Editor

K. S. Crump; R. L. Sielken — 79 A critical evaluation of a dose-response assessment for TCDD

Forthcoming Papers — 85

Software Survey Section — I

Volume 26 Number 2

Research Section

J. Caldwell and J. D. Sutton — 87 Influence of dose size on the disposition of *trans*-[*methoxy*-^{14}C]anethole in human volunteers

P. M. J. Bos, P. A. Van den Brandt, M. Wedel and Th. Ockhuizen — 93 The reproducibility of the conversion of nitrate to nitrite in human saliva after a nitrate load

C. Brouard, M. H. Siess, M. F. Vernevaut and M. Suschetet — 99 Comparison of the effects of feeding quercetin or flavone on hepatic and intestinal drug-metabolizing enzymes of the rat

R. J. Turesky, H. U. Aeschbacher, A. Malnoë and H. P. Würzner 105 Metabolism of the food-borne mutagen/carcinogen 2-amino-3,8-dimethylimidazo[4,5-*f*]quinoxaline in the rat: assessment of biliary metabolites for genotoxicity

B. Stavric, R. Klassen, B. Watkinson, K. Karpinski, R. Stapley and P. Fried 111 Variability in caffeine consumption from coffee and tea: possible significance for epidemiological studies

M. E. Kammüller, H. J. M. Verhaar, C. Versluis, J. K. Terlouw, L. Brandsma, A. H. Penninks and W. Seinen 119 1-Phenyl-5-vinyl-2-imidazolidinethione, a proposed causative agent of Spanish toxic oil syndrome: synthesis, and identification in one of a group of case-associated oil samples

L. M. Valsta, J. D. Hendricks and G. S. Bailey 129 The significance of glutathione conjugation for aflatoxin B_1 metabolism in rainbow trout and coho salmon

M. A. Wallig, D. H. Gould and M. J. Fettman 137 Selective pancreatotoxicity in the rat induced by the naturally occurring plant nitrile 1-cyano-2-hydroxy-3-butene

M. A. Wallig, D. H. Gould M. J. Fettman and C. C. Willhite 149 Comparative toxicities of the naturally occurring nitrile 1-cyano-3,4-epithiobutane and the synthetic nitrile *n*-valeronitrile in rats: differences in target organs, metabolism and toxic mechanisms

C. F. Kuper, P. G. J. Reuzel, V. J. Feron and H. Verschuuren 159 Chronic inhalation toxicity and carcinogenicity study of propylene oxide in Wistar rats

Letter to the Editor
D. L. Arnold and D. Krewski 169 Long-term toxicity of hexachlorobenzene

Announcements 175

Forthcoming Papers 177

Software Survey Section I ChemText—a chemical word processor, contributed by Lise Dumont

Volume 26 Number 3

Research Section

J. F. Borzelleca and J. B. Hallagan 179 Chronic toxicity/carcinogenicity studies of FD&C Yellow No. 5 (tartrazine) in rats

J. F. Borzelleca and J. B. Hallagan 189 A chronic toxicity/carcinogenicity study of FD&C Yellow No. 5 (tartrazine) in mice

E. J. Sinkeldam, A. P. de Groot, H. van den Berg and C. I. Chappel 195 The effect of pyridoxine on the number of lymphocytes in the blood of rats fed Caramel Colour (III)

P. J. Song and J. F. Hu 205 *N*-Nitrosamines in Chinese foods

K. Kikugawa and T. Kato 209 Formation of a mutagenic diazoquinone by interaction of phenol with nitrite

P. J. Groenen and E. Busink 215 Alkylating activity in food products—especially sauerkraut and fermented dairy products—after incubation with nitrite under quasi-gastric conditions

J. E. Hart 227 Subacute toxicity of diethylstilboestrol and hexoestrol in the female rat, and the effects of clomiphene pretreatment

L. O. Dragsted, I. Bull and H. Autrup 233 Substances with affinity to a monoclonal aflatoxin B_1 antibody in Danish urine samples

C. W. Sheu, F. M. Moreland, J. K. Lee and V. C. Dunkel 243 Morphological transformation of BALB/3T3 mouse embryo cells *in vitro* by vomitoxin

B. K. Nelson, W. S. Brightwell, D. R. MacKenzie-Taylor, A. Khan, J. R. Burg, W. W. Weigel and P. T. Goad 247 Teratogenicity of *n*-propanol and isopropanol administered at high inhalation concentrations to rats

A. Isquith, D. Matheson and R. Slesinski 255 Genotoxicity studies on selected organosilicon compounds: *in vitro* assays

FOOD AND CHEMICAL TOXICOLOGY

A. Isquith, R. Slesinski and D. Matheson	263	Genotoxicity studies on selected organosilicon compounds: *in vivo* assays
Review Section		
REVIEWS OF RECENT PUBLICATIONS	267	
Information Section	269	Aldicarb—immunotoxic or not?
Announcements	271	
Forthcoming Papers	272	
Software Survey Section	I	

Volume 26 Number 4

	Page
Foreword	273
Monographs	
Acetaldehyde ethyl *cis*-3-hexenyl acetal	275
Acetaldehyde ethyl hexyl acetal	277
Acetaldehyde ethyl isoeugenyl acetal	279
Acetaldehyde ethyl linalyl acetal	281
4-Acetoxy-3-ethoxybenzaldehyde	283
Amyl hexanoate	285
p-tert-Butyldihydrocinnamaldehyde	287
6-Butyl-2,4-dimethyldihydropyrane	289
1,4-Cineole	291
Cyclohexyl butyrate	293
Cyclopentenyl propionate musk	295
Diallyl disulphide	297
Diallyl sulphide	299
Diethyl ketone	301
2,4-Dihydroxy-3-methylbenzaldehyde	303
7,11-Dimethyl-4,6,10-dodecatrien-3-one	305
α,α-Dimethyl-*P*-ethylphenylpropanal	307
2,6-Dimethyl-2,4,6-octatriene	309
6,10-Dimethyl-3,5,9-undecatriene-2-one	311
7-Ethoxy-3,7-dimethyloctanal	313
Ethyl acetoacetate ethylene glycol ketal	315
Ethyl *trans*-2,*cis*-4-decadienoate	317
2-Ethylhexanal	319
Ethyl tiglate	321
Eucalyptus citriodora oil	323
Formaldehyde cyclododecyl ethyl acetal	325
Formaldehyde cyclododecyl methyl acetal	327
2-Formyl-6,6-dimethylbicyclo[3.1.1]hept-2-ene	329
trans-2-heptenal	331
Heptyl butyrate	333
2-Heptyltetrahydrofuran	335
trans,trans-2,4-hexadienal	337
2,4-Hexadienyl isobutyrate	339
Hexanoic acid	341
trans-3-Hexenal	343
trans-2-Hexenal diethyl acetal	345
trans-2-Hexenal dimethyl acetal	347
2-Hexylcyclopentanone	349
Hexyl formate	351
Hexyl isovalerate	353
Hexyl propionate	355
Honeysuckle absolute	357
α-Ionol	359
β-Ionol	361
α-Ionyl acetate	363
Isopropyl cinnamate	365
6-Isopropyl-2-decahydronaphthalenol	367
4-Isopropyl-1-methyl-2-propenylbenzene	369
6-Isopropyl-2(*H*)-octahydronaphthalenone	371
1-Menthyl phenylacetate	373
7-Methoxycoumarin	375

p-Methoxyhydratropaldehyde 377
3-Methylbutyraldehyde 379
Methyl heptanoate 381
α-Methylionol 383
Methyl *o*-methoxybenzoate. 385
Methyl tiglate 387
Myrtenyl acetate 389
Neryl isobutyrate 391
2-Nonanone 393
3,5,7-Nonatrien-2-one 395
Perilla oil. 397
Phenylethyl 2-methylbutyrate 399
3-Propylbicyclo[2.2.1]hept-5-ene-2-carboxaldehyde 401
Propyl octanoate 403
Rhodinyl phenylacetate 405
Tea tree oil 407
Terpinyl isobutyrate 409
2-Tridecenal 411
3,6,10-Trimethyl-3,5,9-undecatrien-2-one 413
1,3,5-Undecatriene. 415

Volume 26 Number 5

Research Section

R. Pastorelli, A. Ancidei, R. Fanelli and L. Airoldi 419 Effect of acute and chronic butylated hydroxyanisole administration on *in vivo* glucuronidation of *N*-nitrosobutyl(4-hydroxybutyl)amine in rats

A. P. de Groot, V. J. Feron and H. R. Immel 425 Induction of hyperplasia in the bladder epithelium of rats by a dietary excess of acid or base: implications for toxicity/carcinogenicity testing

A. Mantovani, C. Ricciardi, A. V. Stazi, C. Macri, A. Piccioni, E. Badellino, M. De Vincenzi, S. Caiola and M. Patriarca 435 Teratogenicity study of ammonium glycyrrhizinate in the Sprague–Dawley rat

P. Restani, P. Campagner, A. Fiecchi, P. Resmini and C. L. Galli 441 Identification of spinacine as the principal reaction product of γ-casein with formaldehyde in cheese

H. P. Til, R. A. Woutersen, V. J. Feron and J. J. Clary 447 Evaluation of the oral toxicity of acetaldehyde and formaldehyde in a 4-week drinking-water study in rats

E. Higón, M. P. Vaquero, M. P. Navarro and F. J. Sánchez-Muniz 453 Effects of consuming toxic oils and oleoanilides on fat digestibility and adipose tissue composition of rats

J. A. Engelhardt, W. W. Carlton, A. H. Rebar and A. W. Hayes 459 Rubratoxin B mycotoxicosis in the Swiss ICR mouse

C. M. Burnett and E. I. Goldenthal 467 Multigeneration reproduction and carcinogenicity studies in Sprague–Dawley rats exposed topically to oxidative hair-colouring formulations containing *p*-phenylenediamine and other aromatic amines

J. M. Ansell and J. A. Fowler 475 The acute oral toxicity and primary ocular and dermal irritation of selected *N*-alkyl-2-pyrrolidones

G. Lunn and E. B. Sansone 481 Dealing with spills of hazardous chemicals: some nitrosamides

Announcements 485

Forthcoming Papers 486

Software Survey Section

Dan Giancaterino I Sci-Mate software system V2.0

Barry Giordano Chromatography software for the HP-1000A series computer

Barry Giordano II RLAB II—a laboratory information management system 2600 chromatography software for the IBM PC and compatibles

Robert B. Janney — III CALS PEAKPRO—a powerful chromatographic data acquisition analysis and reporting program

Peter G. Berthrong — CALS LAB MANAGER—a laboratory information management system

I. Hughes — IV ILEUM ver. 2.0—a simulator of laboratory experiments

Volume 26 Number 6

Research Section

M. Hayashi, M. Kishi, T. Sofuni and M. Ishidate, Jr — 487 Micronucleus tests in mice on 39 food additives and eight miscellaneous chemicals

R. J. Turesky, H. Bur, T. Huynh-Ba, H. U. Aeschbacher and H. Milon — 501 Analysis of mutagenic heterocyclic amines in cooked beef products by high-performance liquid chromatography in combination with mass spectrometry

T. Tahira, H. Ohgaki, K. Wakabayashi, M. Nagao and T. Sugimura — 511 The inhibitory effect of thioproline on carcinogenesis induced by *N*-benzylmethylamine and nitrite

H. G. Shertzer and M. Sainsbury — 517 Protection against carbon tetrachloride hepatotoxicity by 5,10-dihydro-indeno[1,2-*b*]indole, a potent inhibitor of lipid peroxidation

G. Farrar, A. P. Morton and J. A. Blair — 523 Tissue distribution of gallium following administration of the gallium–maltol complex in the rat: a model for an aluminium–maltol complex of neurotoxicological interest

Review Section

D. Trizio, D. A. Basketter, P. A. Botham, P. H. Graepel, Cl. Lambré, S. J. Magda, T. M. Pal, A. J. Riley, H. Ronneberger, N. J. Van Sittert and W. J. Bontinck — 527 Identification of immunotoxic effects of chemicals and assessment of their relevance to man

B. Stavric — 541 Methylxanthines: toxicity to humans. 1. Theophylline

REVIEWS OF RECENT PUBLICATIONS — 567

Information Section — 571 Aspartame—a bit of a headache?

572 Diet and intelligence

573 Genetic susceptibility to toxic insults

Letters to the Editor

B. Weiss; J. Hopkins — 575 Tartrazine

W. Diller — 576 TDI—not so toxic?

Announcements — 577

Forthcoming Papers — 578

Software Survey Section — I

Volume 26 Number 7

Research Section

P. Larsson, B. S. Larsson and H. Tjälve — 579 Binding of aflatoxin B_1 to melanin

J.-M. Porcher, C. Dahel, C. Lafarge-Frayssinet, F. S. Chu and C. Frayssinet — 587 Uptake and metabolism of T-2 toxin in relation to its cytotoxicity in lymphoid cells

R. C. Massey, P. E. Key, A. K. Mallett and I. R. Rowland 595 An investigation of the endogenous formation of apparent total *N*-nitroso compounds in conventional microflora and germ-free rats

G. Calvin, P. H. Long, K. A. Stitzel, R. L. Anderson, R. R. Balmbra, R. D. Bruce, A. Bhatt, P. M. Miller and A. Broadmeadow 601 Ethylenediaminetetra(methylenephosphonic acid): genotoxicity, biodistribution, and subchronic and chronic toxicity in rats

G. C. Peristianis, S. M. A. Doak, P. N. Cole and R. W. Hend 611 Two-year carcinogenicity study on three aromatic epoxy resins applied cutaneously to CF1 mice

E. J. LaVoie, S. Dolan, P. Little, C.-X. Wang, S. Sugie and A. Rivenson 625 Carcinogenicity of quinoline, 4- and 8-methylquinoline and benzoquinolines in newborn mice and rats

D. J. Doolittle, D. A. Lee and C. K. Lee 631 The genotoxic activity of glycerol in an *in vitro* test battery

Review Section

R. L. Anderson 637 An hypothesis of the mechanism of urinary bladder tumorigenesis in rats ingesting sodium saccharin

B. Stavric 645 Methylxanthines: toxicity to humans. 2. Caffeine

Announcements 663

Forthcoming Papers 664

Software Survey Section I

Volume 26 Number 8

Research Section

R. L. Anderson, F. R. Lefever and J. K. Maurer 665 The effect of various saccharin forms on gastro-intestinal tract, urine and bladder of male rats

H. Benjamin, J. Storkson, P. G. Tallas and M. M. Pariza 671 Reduction of benzo[*a*]pyrene-induced forestomach neoplasms in mice given nitrite and dietary soy sauce

Z. S. C. Okoye and G. E. Neal 679 Enhanced ethanol-induced changes in disposition and toxic response to dietary aflatoxin B_1 due to *Sacoglottis gabonensis* bark extract, a Nigerian alcoholic beverage additive

J. H. Tai and J. J. Pestka 691 Impaired murine resistance to *Salmonella typhimurium* following oral exposure to the trichothecene T-2 toxin

A. T. Fong, J. D. Hendricks, R. H. Dashwood, S. Van Winkle and G. S. Bailey 699 Formation and persistence of ethylguanines in liver DNA of rainbow trout treated with diethylnitrosamine by water exposure

C. F. B. Nhachi and O. Chikuni 705 A comparative study of the hepatotoxicity of 11-fluoroheptane and 1-fluorohexane

M. Casanova, H.d'A. Heck, J. I. Everitt, W. W. Harrington, Jr and J. A. Popp 715 Formaldehyde concentrations in the blood of rhesus monkeys after inhalation exposure

Review Section

H. C. Grice 717 Safety evaluation of butylated hydroxyanisole from the perspective of effects on forestomach and oesophageal squamous epithelium

B. Stavric 725 Methylxanthines: toxicity to humans. 3. Theobromine, paraxanthine and the combined effects of methylxanthines

REVIEWS OF RECENT PUBLICATIONS 735

Information Section 739 How to detect irradiated food

740 Mutagenicity of repeatedly used cooking fats

Announcements 743

Forthcoming Papers 744

Software Survey Section

I. Hughes — I CARDIOLAB—a device to simulate chart recorder outputs of experiments on anaesthetized animals

Dorte Jensen — II Compudex—a program for text searching and information retrieval

H. J. R. Weintraub — CAMSEQ/M—a full featured, menu driven, PC-based modeling system

Kendric C. Smith — III GRANT TRACKER[tm] bookkeeping program

P. L. Taylor — AssayZap—a program for assay calculation for the Apple Macintosh

J. R. Florini — IV AUTOBIBLIO—a program for selection and storage of reference lists in required formats

Volume 26 Number 9

Research Section

A. C. Sen, C. I. Wei, S. Y. Fernando, J. Toth, E. M. Ahmed and G. E. Dunaif — 745 Reduction of mutagenicity and toxicity of aflatoxin B_1 by chlorine gas treatment

S. Kumagai — 753 Effects of plasma ochratoxin A and luminal pH on the jejunal absorption of ochratoxin A in rats

N. P. Navarro, M. P. Vaquero, A. M. Castrillon and G. Varela — 759 Several aspects of mineral/protein nutrition in relation to consumption of an oil involved in the toxic syndrome

T. Bosakowski, A. A. Levin and J. H. Edgcomb — 767 Studies on the testicular effects of vitamin A palmitate in the Sprague–Dawley rat

J. O'Brien and R. Walker — 775 Toxicological effects of dietary Maillard reaction products in the rat

S. D. Blowers and D. Anderson — 785 The *in vivo* genotoxic properties of the nitrosopeptide *N*-(*N*-acetyl-L-prolyl)-*N*-nitrosoglycine

G. P. Meshram and K. M. Rao — 791 *N,N*-Diethylphenylacetamide, an insect repellent: absence of mutagenic response in the *in vitro* Ames test and *in vivo* mouse micronucleus test

C. B. Struble and G. D. Paulson — 797 The metabolism and deamination of [^{14}C]sulphamethazine in a germ-free pig: the influence of nitrate and nitrite

D. W. Petersen — 803 Subchronic percutaneous toxicity testing of two liquid hand dishwashing detergents

Review Section

REVIEWS OF RECENT PUBLICATIONS — 807

Information Section — 811 Di-(2-ethylhexyl) phthalate—missing links

Announcements 813

Forthcoming Papers 814

Software Survey Section

Jeanne L. Oliver — I CLIN-TEAMS/PCS[TM] V1.1—a product complaint system

II CLIN-TEAMS/DER[TM] V1.0—drug experience reporting

CLIN-TEAMS[TM] V4.1 and V5.0—a program for inputting clinical trial data into host and/or remote computers

FOOD AND CHEMICAL TOXICOLOGY

Volume 26 Number 10

Research Section

M. T. Cuzzoni, G. Stoppini, G. Gazzani and P. Mazza 815 Influence of water activity and reaction temperature of ribose–lysine and glucose–lysine Maillard systems on mutagenicity, absorbance and content of furfurals

S. P. Swanson, C. Helaszek, W. B. Buck, H. D. Rood Jr and W. M. Haschek 823 The role of intestinal microflora in the metabolism of trichothecene mycotoxins

A. K. Mallett, D. G. Walters and I. R. Rowland 831 Protein-related differences in the excretion of nitrosoproline and nitrate by the rat—possible modification of *de novo* nitrate synthesis

T. Takano, Y. Miyazaki and K. Nakata 837 Interaction of nitrite with catalase in the perfused rat liver

M. E. Møller, R. Dahl and O. C. Bøckman 841 A possible role of the dietary fibre product, wheat bran, as a nitrite scavenger

A. Tanaka, A. Hisanaga, T. Inamasu, M. Hirata and N. Ishinishi 847 A comparison of the carcinogenicity of *N*-nitrosodiethylamine and *N*-nitrosodimethylamine after intratracheal instillation into Syrian golden hamsters

H. P. Til, H. E. Falke, C. F. Kuper and M. I. Willems 851 Evaluation of the oral toxicity of potassium nitrite in a 13-week drinking-water study in rats

A. R. Tricker, R. Haubner, B. Spiegelhalder and R. Preussmann 861 The occurrence of tobacco-specific nitrosamines in oral tobacco products and their potential formation under simulated gastric conditions

Review Section

M. L. Weiner 867 Intestinal transport of some macromolecules in food

Announcements 881

Forthcoming Papers 882

Software Survey Section I

Volume 26 Number 11/12

Research Section

G. M. Alink, P. L. M. Reijven, R. Sijtsma, W. M. F. Jongen, R. J. Topp, H. A. Kuiper and J. H. Koeman 883 Effects of human diets on biotransformation enzyme activity and metabolic activation of carcinogens in rat liver

H. Amo, M. Matsuyama, H. Amano, C. Yamada, M. Kawai, N. Miyata and M. Nakadate 893 Carcinogenicity and toxicity study of *m*-phenylenediamine administered in the drinking-water to (C57BL/6 × C3H/He)F_1 mice

R. L. Anderson, F. R. Lefever and J. K. Maurer 899 Comparison of the responses of male rats to dietary sodium saccharin exposure initiated during nursing with responses to exposure initiated at weaning

A. D. Ayrton, C. Ioannides and R. Walker 909 Induction of rat hepatic cytochrome *P*-450 I proteins by the antimutagen anthraflavic acid

S. D. Blowers, M. H. Brinkworth and D. Anderson 917 Effects of the nitrosopeptide *N*-(*N*-acetyl-L-prolyl)-*N*-nitrosoglycine on *Salmonella typhimurium* TA100 in the host-mediated assay in mice

R. A. Ford, A. M. Api and R. R. Suskind 921 Allergic contact sensitization potential of hydroxycitronellal in humans

G. A. Kimmich, J. Randles and R. L. Anderson 927 Inhibition of the serosal sugar carrier in isolated intestinal epithelial cells by saccharin

FOOD AND CHEMICAL TOXICOLOGY

Li Xili, Xu Eryi, Xu Gencheng, Shang Reiming, Wang Yuengming, Chen Jie and Huang Fengchi	935	Safety evaluation studies of SGF-gum—a potential food additive from the seed of *Sesbania cannabina*
H. G. M. Tiedink, J. A. R. Davies, L. W. van Broekhoven, H. J. van der Kamp and W. M. F. Jongen	947	Formation of mutagenic *N*-nitroso compounds in vegetable extracts upon nitrite treatment: a comparison with the glucosinolate content
Brief Communication		
Muralidhara and K. Narasimhamurthy	955	Non-mutagenicity of capsaicin in albino mice
Letter to the Editor		
T. P. Flaten and M. Ødegård	959	Tea, aluminium and Alzheimer's disease
REVIEWS OF RECENT PUBLICATIONS	961	
Information Section	963	Water chlorination, cancer induction and liver peroxisomes
	963	Dietary acid/base manipulation: implications for toxicity testing
Announcements	965	
Forthcoming Papers	966	
Software Survey Section	I	